

**AGREEMENT BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND THE JAPAN NUCLEAR CYCLE DEVELOPMENT INSTITUTE
IN THE FIELD OF NUCLEAR TECHNOLOGIES**

The Department of Energy (DOE) of the United States of America and the Japan Nuclear Cycle Development Institute (JNC) (successor organization to the Power Reactor and Nuclear Fuel Development Corporation) (hereinafter referred to as the "Parties"):

Recognizing that the United States of America and Japan are parties to the Treaty on the Non-Proliferation of Nuclear Weapons; and

Noting that the Parties have cooperated under the terms of an Agreement in the Field of Liquid Metal-Cooled Fast Breeder Reactors signed on March 4, 1969, and subsequent cooperative Agreements of January 31, 1979, January 11, 1991, and April 11, 1995; and

Wishing to continue the close and long-term cooperation in the field of nuclear technologies;

Have agreed as follows:

ARTICLE 1

1. Cooperation between the Parties in the conduct of programs associated with nuclear technologies shall be directed towards finding solutions to mutually agreed problems, and to exchanging information developed during the resolution of these problems. This cooperation may include exchange of experience and results of theoretical, experimental, and conceptual design programs; and agreed research and development projects. Cooperation between the two Parties shall be on the basis of mutual benefit, equality, and reciprocity.
2. Cooperation under this Agreement shall be carried out subject to the Agreement for Cooperation Between the Government of the United States of America and the Government of Japan Concerning Peaceful Uses of Nuclear Energy, signed November 4, 1987 (hereinafter the Agreement for Cooperation), and to the laws and regulations of the respective countries.
3. In accordance with paragraph 1 of Article 8 of the Agreement for Cooperation, any technology transferred or acquired pursuant to this Agreement shall be used only for peaceful purposes.

ARTICLE 2

The areas of cooperation in nuclear technologies covered by this Agreement may include the following:

1. Reactor neutronics analysis and experimentation, to include reactor and plant shielding and nuclear data;
2. Reactor and plant safety, including safety issues relating to foreign-designed reactors;
3. Fuels and materials, to include structural, component, absorber and circuit materials, and fuels which could tend to reduce or eliminate the production of material directly usable in nuclear explosive devices;
4. Nuclear steam supply systems and their associated components, to include component and system design, instrumentation and control, thermal hydraulics, structural analysis, and architectural design;
5. Quality assurance and non-destructive practices;
6. Economic and environmental considerations;
7. Reactor life extension;
8. Reactor decontamination and decommissioning, including fuel treatment and storage;
9. Nuclear material transportation, including shipping casks;
10. Irradiation technology, including isotope production with use of advanced production techniques;
11. Fissile material treatment technology;
12. Advanced nuclear technology, including application of computer science;
13. Uses and management of depleted uranium;
14. Reactor-based plutonium disposition;
15. Applications of remote technologies to operational improvement, radiation exposure reduction and decontamination, and dismantlement;
16. Proliferation-resistant reactors and fuel cycles;
17. New reactor designs with higher efficiency, lower cost, improved safety and reduction of environmental impact; and
18. Such other areas of cooperation as may be added by agreement of the Parties.

ARTICLE 3

Cooperation under this Agreement may include but is not limited to the following forms:

1. Exchange of scientists, engineers, and other specialists for agreed periods of time for participation in experiments, analysis, design, and other research, development and demonstration activities at scientific centers, nuclear reactor facilities, laboratories, engineering offices, and other facilities of the Parties or of contractors of the Parties;
2. Exchange or provision of samples, materials, instruments, and components for experiments, testing, and evaluation;
3. Exchange of information and data on scientific and technical activities, including results and methods of research and development;
4. Organization of, and participation in, seminars, workshops, and other meetings on research and development problems in the areas listed in Article 2;
5. Short-term visits by specialist teams or individual staff to the nuclear reactor facilities and non-nuclear test facilities in support of the programs of the other Party, subject to the prior written agreement on each occasion of the Receiving Party;
6. The use by one Party of the facilities owned or operated by the other Party. Such use of facilities shall be the subject of separate agreements between the Parties;
7. Joint projects in which the Parties agree to share the work and/or costs. In accordance with Article 5, each such joint project shall be the subject of a separate Specific Memorandum of Agreement between the Parties; and
8. Such other specific forms of cooperation as may be agreed by the Parties and approved by the Joint Coordinating Committee.

ARTICLE 4

1. To supervise the execution of this Agreement, a DOE/JNC Joint Coordinating Committee on Cooperation on nuclear technologies shall be established. The Joint Coordinating Committee shall consist of up to ten members, half of whom shall be appointed by each Party. This Committee shall meet each year alternately in the United States and in Japan, or at other agreed times and places. The Head of the Delegation of the Receiving Party shall act as Chairman during meetings of the Committee. In addition, each Party shall have the right to invite advisors to such meetings, as necessary.
2. At its meetings, the Joint Coordinating Committee shall evaluate the status of cooperation under this Agreement. This evaluation shall include an assessment of the balance of

exchange in the various areas of cooperation listed in Article 2 and, if necessary, a consideration of measures required to correct any imbalances.

3. For the detailed management of the cooperation, joint working groups shall be appointed by the Joint Coordinating Committee to cover cooperation undertaken in each of the areas listed in Article 2. Each joint working group shall agree on specific plans for cooperation in its respective area, within guidelines and policy set by the Joint Coordinating Committee. Each joint working group shall be responsible for the working contacts and exchanges between the Parties in their respective areas of cooperation.
4. At least once a year each joint working group shall report on its cooperative activities since the previous meeting of the Joint Coordinating Committee, and shall propose for acceptance a program of cooperation for the next 12 months.

ARTICLE 5

The Parties shall conclude a Specific Memorandum of Agreement for each joint project which they agree to undertake pursuant to Article 3(7). Each such Memorandum of Agreement shall be subject to and form an integral part of this Agreement and shall contain provisions on technical scope, management, costs, cost sharing, schedule, and, as appropriate, intellectual property rights.

ARTICLE 6

1. The Parties shall exchange, as agreed on a mutually beneficial basis, scientific and technical information, documents, and results of research and development of related work carried out under this Agreement. Such information shall be limited to that which they have the right to disclose, either in their possession or available to them, from the technical areas described in Article 2. The Parties shall not exchange or transfer under this Agreement "Restricted Data" or "Sensitive Nuclear Technology," as defined by Article I of the Agreement for Cooperation.
2. JNC shall provide DOE with abstracts in English of reports or other information on Japan's nuclear technology programs. Payment for translation will be decided by the Parties on a case-by-case basis.
3. Seminar proceedings and reports of joint activities carried out under this Agreement shall be published as joint publications, as mutually agreed by the Parties.
4. The information developed and exchanged under this Agreement should be given wide distribution. Such information, except as noted in Article 7 of this Agreement, may be made available to the public by either Party through customary channels and in accordance with normal procedures of the Parties.
5. Copyrights of either Party or of cooperating organizations and persons shall be accorded treatment consistent with internationally recognized standards of protection. As to copyrights

of material within the scope of Article 7 owned or controlled by a Party, each Party shall make efforts to grant to the other a license to reproduce copyrighted materials.

6. The application or use of any information exchanged or transferred between the Parties under this Agreement shall be the responsibility of the Party receiving it, and the transmitting Party does not warrant the suitability of such information for any particular use or application.
7. Details and procedures for the protection and distribution of intellectual property rights and other rights of a "business confidential" nature are set forth in Article 7. Article 7 is applicable to any cooperative activities under this Agreement, except as otherwise specifically agreed by the Parties in a Specific Memorandum of Agreement or otherwise. Such Memoranda of Agreement also may elaborate upon the provisions of Article 7.

ARTICLE 7

The Parties shall ensure adequate and effective protection of intellectual property created or furnished under this Agreement and relevant implementing arrangements. The Parties agree to notify one another in a timely fashion of any inventions or copyrighted works arising under this Agreement and to seek protection for such intellectual property in a timely fashion. Rights to such intellectual property shall be allocated as provided in this Article.

1. Scope

- A. This Article is applicable to all cooperative activities undertaken pursuant to this Agreement, except as otherwise specifically agreed by the Parties or their designees.
- B. For purposes of this Agreement, "intellectual property" shall have the meaning found in Article 2 of the Convention Establishing the World Intellectual Property Organization, done at Stockholm, July 14, 1967.
- C. This Article addresses the allocation of rights and interests between the Parties. Each Party shall ensure that the other Party can obtain the rights to intellectual property allocated in accordance with this Article, by obtaining those rights from its own participants through contracts or other legal means, if necessary. This Article does not otherwise alter or prejudice the allocation between a Party and its nationals, which shall be determined by that Party's laws and practices.
- D. Disputes concerning intellectual property arising under this Agreement should be resolved through discussions between the concerned participating institutions, or, if necessary, the Parties or their designees. Upon mutual agreement of the Parties, a dispute shall be submitted to an arbitral tribunal for binding arbitration in accordance with the applicable rules of international law. Unless the Parties or their designees agree otherwise in writing, the arbitration rules of UNCITRAL shall govern.

E. Termination or expiration of this Agreement shall not affect rights or obligations under this Article.

2. Allocation of Rights

A. Each Party shall be entitled to a non-exclusive, irrevocable, royalty-free license in all countries to translate, reproduce, and publicly distribute scientific and technical journal articles, reports, and books directly arising from cooperation under this Agreement. All publicly distributed copies of a copyrighted work prepared under this provision shall indicate the names of the authors of the work unless an author explicitly declines to be named.

B. Rights to all forms of intellectual property, other than those rights described in Paragraph 2.A. above, shall be allocated as follows:

- i. (a) Visiting researchers, for example, scientists visiting primarily in furtherance of their education, shall receive intellectual property rights under the policies of the host institution. In addition, each visiting researcher named as an inventor shall be entitled national treatment with regard to awards, bonuses, benefits, or any other rewards, in accordance with the policies of the host institution.
- (b) Upon request of one Party or its institution, the other Party or its institution will promptly provide to the Requesting Party information pertaining to said policy of the host institution.
- ii. (a) For intellectual property created during joint research, for example, when the Parties, participating institutions, or participating personnel have agreed in advance on the scope of work, each Party shall be entitled to obtain all rights and interests in its own country. Rights and interests in third countries will be determined in implementing arrangements. If research is not designated as "joint research" in the relevant implementing arrangement, rights to intellectual property arising from the research will be allocated in accordance with paragraph 2.B.i. above. In addition, each person named as an inventor shall be entitled to national treatment with regard to awards, bonuses, benefits, or any other rewards in accordance with the policies of the participating institutions.
- (b) In the event that other forms of intellectual property are created in the course of cooperative activities under this Agreement and they are not protected by the laws of one Party's country, disposition of rights in that intellectual property will be determined, on an equitable basis, as described in subparagraph (c) below and in accordance with the laws and regulations of the respective countries.
- (c) The Parties to the cooperative activities will, at the request of either Party, promptly consult with each other on the disposition of rights in the

intellectual property referred to in subparagraph (b) above. The cooperative activity in question will be suspended during the consultation unless otherwise agreed by the Parties. If no agreement on the disposition of said rights can be reached within a three-month period from the date of request for consultation, the cooperative activity in question may be terminated by either Party with notice to the other Party. In this case, each Party shall also notify its respective authority of such termination.

3. Business Confidential Information

In the event that information identified in a timely fashion as business-confidential is furnished or created under this Agreement, each Party and its participants shall protect such information in accordance with applicable laws, regulations, and administrative practices. Information may be identified as "business-confidential" if a person having the information may derive an economic benefit from it or may obtain a competitive advantage over those who do not have it, the information is not generally known or publicly available from other sources, and the owner has not previously made the information available without imposing in a timely manner an obligation to keep it confidential.

ARTICLE 8

The following provisions shall apply to the provision or exchange of equipment for use in joint projects, or in other projects as mutually agreed:

1. The Sending Party shall supply as soon as possible a detailed list of the equipment to be provided together with the relevant specifications and technical and informational documentation.
2. The equipment and necessary spare parts supplied by the Sending Party for use in joint projects shall remain its property and shall be returned to the Sending Party upon completion of the joint project unless otherwise agreed.
3. Equipment shall be brought into operation at the host establishment only by mutual agreement of the Parties or between their senior representatives at the host establishment.
4. The host establishment shall provide the necessary premises for the equipment, and shall provide for electric power, water, gas, and other utility services, in accordance with technical requirements which shall be as mutually agreed.
5. The Sending Party shall be responsible and pay the expenses for the transport of equipment and materials by plane or ship to an authorized port of entry in the Receiving Party convenient to the ultimate destination, return shipment from the port of entry, and for safekeeping and insurance en route.

6. The Receiving Party shall be responsible for safekeeping and insurance en route from the authorized port of entry to the ultimate destination and return to the port of entry.
7. Equipment provided by the Sending Party for carrying out joint projects shall be considered to be scientific, not having a commercial character.

ARTICLE 9

The following provisions shall apply to assignment or exchanges of staff:

1. Each Party shall ensure that qualified staff are selected for assignment to the other Party. Each exchange of staff shall be the subject of a separate agreement between the Parties.
2. The Assigning Party shall be responsible for its staff's salaries, insurance and allowances. The Assigning Party also shall pay for the travel and living expenses of its staff while on assignment to the Receiving Party unless otherwise agreed in writing.
3. The Receiving Party shall arrange for adequate accommodations for assigned staff and their families on a mutually agreeable, reciprocal basis.
4. The Receiving Party shall provide all necessary assistance to assigned staff and their families as regards administrative formalities.
5. Assigned staff shall conform to the general rules of work and safety regulations in force at the Receiving Party's establishment, unless otherwise agreed in separate attachment-of-staff agreements.

ARTICLE 10

Except when the Parties otherwise agree in writing, each Party shall bear the costs of its participation in the activities under this Agreement.

Cooperation under this Agreement shall be conducted according to the international obligations, laws and regulations of the Parties and shall be subject to the availability of personnel and funds.

Any questions of interpretation or implementation relating to this Agreement arising during its term shall be resolved by agreement of the Parties.

ARTICLE 11

This Agreement shall enter into force upon signature, and remain in force for five years, and may be extended or amended by mutual agreement of the Parties, provided that the Agreement for Cooperation remains in force.

This Agreement may be terminated at any time by either Party, upon one year's advance notification in writing. Such termination shall be without prejudice to the rights which may have accrued under this Agreement to either Party up to the date of such termination.

Joint activities not completed at the termination of this Agreement may, if agreed by the Parties, be continued until their completion under the terms of the Agreement.

Done at in duplicate, in the English language, this 22th day of August, 2000.

FOR THE JAPAN NUCLEAR CYCLE
DEVELOPMENT INSTITUTE:

A handwritten signature in Japanese characters, likely reading "高田 泰子" (Takada Taiko).

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA:

A handwritten signature in cursive script, likely belonging to a representative of the U.S. Department of Energy.